

Claims

1. An electromagnetic wave absorber, comprising:  
    element receiving means provided with a plurality of conductor elements having predetermined resonant frequencies and including a plurality of types of conductor elements that perform different receiving operations, the plurality of conductor elements being arranged spaced away from each other in a direction intersecting an incoming direction of electromagnetic waves; and  
    a loss material for causing energy loss to electromagnetic waves, provided close to the element receiving means.
2. The electromagnetic wave absorber of claim 1, wherein the conductor elements are arranged also in the incoming direction of electromagnetic waves, in addition to the direction intersecting the incoming direction of electromagnetic waves.
3. The electromagnetic wave absorber of claim 1 or 2, further comprising electromagnetic wave reflecting means for reflecting electromagnetic waves, disposed on a side opposite to a side from which electromagnetic waves income with respect to the element receiving means.
4. The electromagnetic wave absorber of any one of claims 1 to 3, wherein a conductivity of the conductor elements is

at least 10,000 S/m.

5. The electromagnetic wave absorber of any one of claims 1 to 4, wherein the conductor elements are made of metal.

6. The electromagnetic wave absorber of any one of claims 1 to 5, wherein the electromagnetic wave absorber is formed in the shape of a sheet having a thickness of at least 0.1 mm and at most 4 mm.

7. The electromagnetic wave absorber of any one of claims 1 to 6, wherein the electromagnetic wave absorber is formed in the shape of a sheet having a mass per unit area of at least 0.2 kg/m<sup>2</sup> and at most 5 kg/m<sup>2</sup>.

8. The electromagnetic wave absorber of any one of claims 1 to 7, wherein among the plurality of types of the conductor elements, one type of the conductor elements are cross conductor elements that are formed in the shape of crosses, and another type of the conductor elements are quadrangular conductor elements that are formed in the shape of planes,

the cross conductor elements and the quadrangular conductor elements are arranged in the direction intersecting the incoming direction of electromagnetic waves,

the cross conductor elements are arranged in a regular

manner in the direction intersecting the incoming direction of electromagnetic waves, and

the quadrangular conductor elements are arranged in areas surrounded by the cross conductor elements so as to fill in the areas.

9. The electromagnetic wave absorber of claim 8, wherein the cross conductor elements are arranged such that radially extending portions are faced with each other, and the quadrangular elements are formed in the shape corresponding to the areas surrounded by the cross conductor elements.

10. The electromagnetic wave absorber of any one of claims 1 to 9, wherein a size of a spacing between the conductor elements is determined so as to lower the resonant frequencies of the conductor elements.

11. The electromagnetic wave absorber of any one of claims 1 to 10, wherein the conductor elements are substantially polygonal, and have at least one corner portion of an arc shape having a curvature radius corresponding to the resonant frequencies.

12. The electromagnetic wave absorber of any one of claims 1 to 11, wherein a property value of the loss material is

determined based on the resonant frequencies of the conductor elements so as to improve the absorption efficiency of electromagnetic waves with the same frequency as the resonant frequencies.

13. The electromagnetic wave absorber of any one of claims 1 to 12, wherein the electromagnetic wave absorber is made flame resistant, quasi-incombustibile, or incombustibile.

14. A method for absorbing electromagnetic waves by using the electromagnetic wave absorber of any one of claims 1 to 13.